User Manual

DBH10R – 80 Channel 1 watt UHF Hand held
DBH20R – 80 Channel 2 watt UHF Hand held

Safety Information and Warnings

Information on Safe Operation
Read This Information Before Using Your CRYSTAL Radio. The operation of your UHF radio in Australia is subject to conditions in the following license:
In Australia the ACMA Radio communications (Citizen Band Radio Stations) and in New Zealand by MED the General User Radio License for Citizen Band Radio.

Radio Antenna
Do not use any radio that has a damaged antenna. If a damaged antenna comes in contact with the skin, a minor burn may result.
Unauthorized antennas, modifications, or attachments could damage the radio and violate compliance. Do NOT change or modify the antenna.
Do NOT hold the antenna when the radio is "IN USE." Holding the antenna reduces range and may cause bodily harm.

Safety and general use whilst in a vehicle
Check the State and Federal laws and regulations regarding the use of two way radios in the area where you drive, and always obey them.

For Vehicles fitted with Air Bags
Do not place your radio in the area over an air bag or in the air bag deployment area. Air bags inflate with great force. If a radio is placed in the air bag deployment area and the air bag inflates, the radio may be propelled with great force and cause serious injury to the occupants of the vehicle.

Batteries
All batteries can cause property damage and/or bodily injury such as burns if conductive material such as jewellery, keys, or beaded chains touches exposed terminals. The material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse, or other container with metal objects.

Do not replace or charge batteries in a potentially explosive atmosphere. Contact sparking may occur while installing or removing batteries and cause an explosion.

Potentially Explosive Atmospheres
Turn your radio OFF when in any area with a potentially explosive atmosphere. Sparks in such areas could cause an explosion or fire resulting in injury or even death. **NOTE:** Areas with potentially explosive atmospheres are often, but not always clearly marked. They include fuelling areas such as below deck on boats; fuel or chemical transfer or storage facilities; areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

Blasting Caps and Areas
To avoid possible interference with blasting operations, turn your radio OFF near electrical blasting caps or in a "blasting area" or in areas posted: "Turn off the two way radio." Obey all signs and instructions.

Exposure to Radio Frequency Energy
Your CRYSTAL two-way radio complies with Australian Communications Authority Radio communications (Electromagnetic Radiation-Human Exposure) Standard, 2003. To assure optimal radio performance and make sure human exposure to radio frequency electromagnetic energy is within the guidelines set out in the above standards always adhere to the following procedures.

Transmit and Receive Procedure

Your two-way radio contains a transmitter and a receiver. To control your exposure and ensure compliance with the general population/uncontrolled environment exposure limits, always adhere to the following procedure: • Transmit no more than 50% of the time.

• To receive calls, release the PTT button.

• To transmit (talk), press the Push to Talk (PTT) button.

Transmitting 50% of the time, or less, is important because the radio generates measurable RF energy exposure only when transmitting (in terms of measuring standards compliance). Always hold the radio approximately 5cm in front of your mouth with the antenna pointing away from your head.

Radio Operation and EME Exposure

Unauthorized antennas, modifications, or attachments could damage the radio and violate compliance. Do NOT hold the antenna when the radio is "IN USE." Holding the antenna reduces the effective range. Do not use the radio if the antenna is damaged. If a damaged antenna makes contact with your skin, a minor burn can result. If you wear a radio on your body when transmitting, always fit the radio on the belt clip (supplied). Always ensure the radio and it's antenna are at least 5cm from your body when transmitting.

Electromagnetic Interference/Compatibility

Nearly every electronic device is susceptible to electromagnetic interference (EMI). To avoid the possibility of electromagnetic interference and/or compatibility conflicts, turn off your radio in any location where posted notices instruct you to do so such as health care facilities.

Aircraft

When instructed to do so, turn off your radio when onboard an aircraft. Any use of a radio must be in accordance with applicable regulations per airline crew instructions.

Medical Devices – Pacemakers

The Advanced Medical Technology Association recommends that a minimum separation of 6 inches (15cm) be maintained between a handheld wireless radio and a pacemaker. These recommendations are consistent with the independent research by and recommendations of the U.S. Food and Drug Administration.

People with pacemakers should:

• ALWAYS keep the radio more than 15cm from their pacemaker when the radio is turned ON.

• Not carry the radio in the breast pocket.

• Use the ear opposite the pacemaker to minimize the potential for interference.

• Turn the radio OFF immediately if there is any reason to suspect that interference is taking place.

Medical Devices - Hearing Aids

Some radios may interfere with some hearing aids. In the event of such interference, you may want to consult your hearing aid manufacturer to discuss alternatives.

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from RF energy. Your physician may be able to assist you in obtaining this information.

General warnings

Never use your radio outdoors during a thunderstorm. Keep the radio out of reach of babies and young children.

INSTALLATION

Removing the belt clip

Pull the belt clip latch away from the unit.

Installing the Batteries

Your unit comes with a rechargeable battery pack.
Also included, is a desktop charger.
The desktop charger will only charge the battery pack provided and not other types of rechargeable batteries.

FOR USE OF NON RECHARGEABLE BATTERIES:

- Slide down the battery compartment cover.
- Insert 4 x AAA batteries (not supplied).
- Position the batteries according to the polarity marking on the battery compartment.

After placing batteries into correct positions, replace the battery cover.

Low Battery Meter Indicator

The radio can detect the low battery level when the battery voltage goes low. The battery icon will display the low battery status
When battery voltage is low, the empty battery symbol will appear and continue to blink. The battery symbol will continuously blink until it totally drains the battery voltage where then you will have to replace the batteries.

Transmitting Range

The talk range will depend on your surroundings and environment it will be affected by obstructions such as hills or buildings.

Don't try to use two radio units which are less than 1.5m (5 feet) apart. Otherwise, you may experience interference. Talk range depends on the terrain. It will be affected by concrete structures, heavy foliage and by operating radios indoors or in vehicles.

88	CTCSS Code. Changes from 1 to 38 as selected by the user.
	Displays the Battery change level. When the bars are reduced, the battery needs recharging.
TX	Displayed when transmitting a signal.
RX	Displayed when receiving a signal.
DCM	Displayed when the Dual Watch function is turned ON.
VOX	Displayed when the VOX feature is enabled.
	Displayed when the Key Lock feature is activated.
	Displays the current Speaker volume level.

Operating the unit

Turning unit on/off:

1- Switching on

Press and hold the *MENU/PWR* until you hear a beep sound.

2- Switching off

Press and hold the *MENU/PWR* until you hear a beep sound.

Adjusting the Volume:

You have 8 preset volume levels. They are displayed on the LCD screen. To raise the volume press the up button and to decrease the volume, press the down button.

Changing Channels:

You have a maximum of 80 channels at your disposal. To communicate with another device, you must both be on the same channel.
To change channels, once you have turned your unit on, you need to press the *CH* button to scroll through to your desired channel.

Your **DBH10R** is simplex "one way at a time". While you are speaking, you cannot receive a transmission.
Your **DBH10R** is an open-license band. Always identify yourself when transmitting on the same channel.

IMPORTANT: Before transmitting on a UHF channel listen to ensure it is not already in use.

Transmitting (sending speech)

The unit is continuously in the Receive mode when the unit is turned ON and not transmitting. When a signal is received on the current channel, "RX" icon will be displayed on the LCD screen. a. Press and hold the PTT (Push to Talk) button to transmit your voice. The transmit signal icon "TX" will display on the LCD screen. b. Hold the unit in a vertical position with the Mic (Microphone) 5 cm away from the mouth. While holding the PTT button, speak into the microphone in a normal tone of voice. c. Release the PTT button when you have finished transmitting.

For others to receive your transmission, they must be on the same channel as you.

Call-Ring tone

You can use the CALL button to send a tone to other users on the same channel. To activate this feature; a. With the unit in normal mode, press and release the CALL button. The unit will transmit a 2-second page tone to the other unit/s set with the same channel within transmitting range. NOTE: This function is only possible every 60 seconds.

Roger Beep

This is a tone which is automatically transmitted whenever the PTT button is released. This alerts the receiving party that you have ended the transmission, and you are now in receive mode.

Duplex operation via Repeaters

This feature allows to use local repeater stations that are designed to automatically re-transmit your broadcast over a large area thus giving you increased range.
Repeaters stations are privately operated radio systems installed throughout Australia.
For example, if you wish to access a repeater station in your area which operates on channel 2 you only need to set the Duplex access on this Channel.
So, if you are in the range of a local repeater which transmits on channel 2, after setting your radio to allow access of the repeater on that channel, you will select channel 2 as normal, but during transmit operation your radio will automatically transmit to the repeater on channel 32.
Turning on/off Duplex on channels

a. Select the required channel to suit the repeater station you wish to access (Channels 1 – 8 and 41 – 48).
b. Press the Menu button twice, "RPT" icon will display
c. Press the UP or DOWN button to set the Duplex function to On or Off.
d. Press the PTT button to confirm your setting.
e. The RPT icon will display to indicate that Duplex is set on that channel.

Receive Channel	1	2	3	4	5*	6	7	8
Transmit channel	31	32	33	34	35*	36	37	38

Receive Channel	41	42	43	44	45	46	47	48
Transmit channel	71	72	73	74	75	76	77	78

* Channel 5 is emergency channel only

Channel 5 and 35 (paired for Duplex repeaters) are reserved as emergency channels and should be used only in an emergency. CTCSS and DCS will not operate on channels 5 and 35.

A list of currently authorised channels can be obtained from the ACMA website in Australia and the MED website in New Zealand. Channel 11 is a calling channel generally used to call others and channel 40 is the customary road vehicle channel.

Once contact is established on the calling channel, both stations should move to another unused "SIMPLEX" channel to allow others to use the calling channel.

Channels 22 and 23 are for Telemetry and Telecommand use, voice communications are not allowed on these channels by law. Channel 9 and above are the best choices for general use in Simplex mode.

Radio communications (Citizen Band Radio Stations) Class Licence 2002

No licence is required to own or operate this radio in Australia and New Zealand. The Radio communications (Citizen Band Radio Stations) Class Licence 2002 contains the technical parameters, operating requirements, conditions of licence and relevant standards for Citizen Band (CB) radios. CB radios must comply with the class licence for their use to be authorised under the class licence.

UHF channels and frequencies

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Technical Assistance

If you need assistance setting up or using your CRYSTAL product now or in the future, call CRYSTAL Support.
Australia
TEL: 03 – 8587 8898
FAX: 03 – 8587 8866

Mon-Fri 9am – 5pm AEST

Please retain this user guide for future reference.

CRYSTAL MOBILES WARRANTY AGAINST DEFECTS

This warranty against manufacturing defects is given by TDJ Australia Pty Ltd ACN 006 385 191). Our contact details are set out in clause 2.7.

1. Consumer guarantee

1.1 Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major *(description according to Australian Consumer Laws)* failure and compensation for any other reasonably foreseeable *(description according to Australian Consumer Laws)* loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to meet manufacturers specifications and the failure does not amount to a major failure.

1.2 To the extent we are able, we exclude all other conditions, warranties and obligations which would otherwise be implied.

2. Warranty against defects

2.1 This Warranty is in addition to and does not limit, exclude or restrict your rights under the Competition and Consumer Act 2010 (Australia) or any other mandatory protection laws that may apply. Consumer guarantees are a set of rules that apply to goods and services purchased by consumers under the Australian Consumer Law (ACL).
These rules set out the circumstances under which a business is required to provide a consumer with a remedy.
The consumer guarantees automatically apply regardless of any voluntary or extended warranty given by a seller or manufacturer of goods and services, or if such a warranty has expired.

2.2 We warrant our goods to be free from defects in materials and workmanship for the warranty period from the date of original sale (or another period we agree to in writing). Subject to our obligations under clause 1.2, we will at our option, either repair or replace goods which we are satisfied do not meet manufacturers specifications. We warrant any replacement parts for the remainder of the period of warranty for the goods into which they are incorporated.

2.3 To the extent permitted by law, our sole liability for breach of a condition, warranty or other obligation implied by law is limited (a) in the case of goods we supply, to any one of the following as we decide - (i) the replacement of the goods or the supply of equivalent goods; (ii) the repair of the goods; (iii) the cost of repairing the goods or of acquiring equivalent goods; (b) in the case of services we supply, to any one of the following as we decide – (i) the supplying of the services again; (ii) the cost of having the services supplied again.

2.4 For repairs outside the warranty period, we warrant our repairs to be free from defects in materials and workmanship for three months from the date of the original

repair. We agree to re-repair or replace (at our option) any materials or workmanship which we are satisfied do not meet manufacturers specifications.

2.5 We warrant that we will perform services with reasonable care and skill and agree to investigate any complaint regarding our services made in good faith. If we are satisfied that the complaint is justified, and as our sole liability to you under this warranty (to the extent permitted at law), we agree to supply those services again at no extra charge to you.

2.6 To make a warranty claim you must before the end of the applicable warranty period, at your own cost, return the goods you allege do not meet manufacturers specifications, provide written details of the alleged defect, and give us an original or copy of the purchase receipt, sales invoice or some other evidence showing details of the transaction.

2.7 Send your claim to: TDJ Australia PTY LTD. 78 Mills Road, Braeside Melbourne Victoria 3195, Australia,
TEL: 03 8587 8898 FAX: 03 8587 8866
Email: tdj-service-team@tdj.com.au

2.8 If we determine that your goods do not meet manufacturers specifications, we will pay for the cost of returning the repaired or replaced goods to you. If we find your goods meet manufacturers specifications and no major defect is found, we will contact you to arrange the return of the goods at your expense.

3. What this warranty does not cover

3.1 This warranty will not apply in relation to: (a) goods modified or altered in any way; (b) defects and damage caused by use with non Standard Communications products; (c) repairs performed other than by our authorized *service team*; (d) defects or damage resulting from misuse, accident, impact or neglect; (e) goods improperly installed or used in a manner contrary to the relevant instruction manual; or (f) goods where the serial number has been removed or made illegal.

4. Warranty period
4.1 We provide the following warranty on Crystal Mobile products. No repair or replacement during the warranty period will renew or extend the warranty period past the period from original date of purchase.

This products warranty period is 2 years from date of purchase